

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of)
Union Sugar Division of Consolidated)
Foods Corporation for Review of)
Order No. 76-66 of the California) Order No. WQ 79-9
Regional Water Quality Control)
Board, Central Coast Region. Our)
File No. A-161.)

BY THE BOARD:

On April 19, 1968, the California Regional Water Quality Control Board, Central Coast Region (Regional Board) adopted waste discharge requirements for the Union Sugar Division of Consolidated Foods Corporation, Betteravia, Santa Barbara County. On December 10, 1976, the Regional Board rescinded these requirements and adopted new waste discharge requirements in Order No. 76-66. These new requirements are more stringent than the prior requirements, in part because of the specific limitations discussed herein. On January 6, 1977, Union Sugar (Petitioner) petitioned the State Board to review Order No. 76-66. In particular, Petitioner requested review of the limitations on the discharge of sodium and chloride to the discharger's treatment ponds to concentrations not greater than 150 and 175 mg/l, respectively. In addition, Petitioner objected to the requirement that effective January 1, 1979, the dissolved oxygen concentration of the surface of the treatment ponds at all times shall be greater than 1.0 mg/l.

Pursuant to the provisions of Subchapter 6, Chapter 3, Title 23, California Administrative Code, this petition is being decided upon the record, without a hearing. On January 9, 1978,

Petitioner submitted additional information not available to the Regional Board at the time of adoption of the waste discharge requirements.

I. BACKGROUND

The Union Sugar Refinery discharges up to 11.5 million gallons per day (mgd) of process wastewater to a series of treatment ponds. Process wastewater consists of waste transport water from beet fluming and washing operations, desugared beet pulp transport water, boiler blowdown, and water softener brines. Union Sugar reuses the pond water for condenser cooling and fluming operations and spray irrigates a maximum flow rate of 1.44 mgd of excess treatment pond water to a 300-acre pasture area owned by Mr. Emilio Sutti. Usable groundwater underlies the treatment ponds at depths ranging from 85 to 110 feet.^{1/}

The Regional Board order at issue herein requires in part:

"IT IS HEREBY ORDERED, Union Sugar Division of Consolidated Foods Corporation, its successors and assigns, shall comply with the following:

A. Discharge Specifications

* * *

4. Discharge to the treatment ponds shall not contain constituents in excess of the following limits:

1. Order No. 76-66, waste discharge requirement for Union Sugar Division of Consolidated Foods Corporation, Betteravia, Santa Barbara County, Finding No. 5. See also Certified Court Reporter's Transcript of Regional Board Meeting of December 10, 1976, pp. 9:8-11.

<u>Constituent</u>	<u>Units</u>	<u>Maximum</u>
Total Filtrable Residue (total dissolved solids)	mg/l	1,725
Sodium	mg/l	150
Chloride	mg/l	175
Sulfate	mg/l	275
Boron	mg/l	0.75

5. Effective January 1, 1979, the dissolved oxygen concentration of the surface of the treatment ponds shall at all times be greater than 1.0 mg/l.

* * *

B. Provisions

* * *

3. In order to assure compliance with this order, Union Sugar, its successors and assigns, shall comply with the following time schedule:

<u>Task</u>	<u>Completion Date</u>	<u>Report of Compliance Date</u>
Submit report showing how compliance with Discharge Specification No. 5 will be achieved.		July 1, 1977
Progress report summarizing compliance efforts with Discharge Specification No. 5.		Sept. 1, 1977
Full compliance with Discharge Specification No. 5.		Jan. 1, 1978" ² / ₁

2. It should be noted that this time schedule, which was adopted by the Regional Board as part of the waste discharge requirements, is inconsistent with provision A(5) of the requirements which requires full compliance with the dissolved oxygen limitation effective January 1, 1979. Compliance with the time schedule has at any rate been suspended pending resolution of this appeal (See letter dated May 3, 1977, from Kenneth R. Jones, Executive Officer, Central Coast Regional Board, to Steven E. Kirby, Hollister and Brace, Attorneys at Law).

The Petitioner has requested that the State Board modify Order No. 76-66 to increase the sodium and chloride limits to 204 mg/l and 250 mg/l, respectively, and to eliminate the dissolved oxygen requirement, together with the associated monitoring and reporting provisions.

II. CONTENTIONS AND FINDINGS

Petitioner raises three major issues which will be dealt with separately below:

1. Contention: Petitioner contends that the Regional Board failed to comply with Water Code Section 13263(a) which provides:

"The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change therein, except discharges into a community sewer system, with relation to the conditions existing from time to time in the disposal area or receiving waters upon or into which the discharge is made or proposed. The requirements shall implement relevant water quality control plans, if any have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, the need to prevent nuisance, and the provisions of Section 13241."

Section 13241, referenced above, provides:

"Each regional board shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance; however, it is recognized that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses. Factors to be considered by a regional board in establishing water quality objectives shall include, but not necessarily be limited to, all of the following:

(a) Past, present, and probably future beneficial uses of water.

(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.

(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.

(d) Economic considerations."

Findings: We will discuss the Regional Board's consideration of conditions existing in the disposal area and receiving waters as well as the waste discharge requirements' implementation of the Basin Plan when considering Petitioner's other contentions. In addition, we will consider the need to prevent nuisance when reviewing the dissolved oxygen requirement. However, Petitioner's contention that the Regional Board should have considered the provisions of Section 13241, including the beneficial uses to be protected, the water quality objectives reasonably required for that purpose and other waste discharges, is without merit.

As stated in State Board Order No. WQ 78-8 (Tahoe-Truckee Sanitation Agency et al.), Section 13241 essentially describes the broad environmental review that a Regional Board must undertake in adopting or revising a basin plan. We have previously held, and it is clear from the legislative history of the Porter-Cologne Act, that, in prescribing waste discharge requirements to implement applicable water quality objectives which are contained in a properly adopted basin plan, a Regional Board need not reconsider each of the elements set forth in Water Code Section 13241.^{3/}

3. See State Board Order No. WQ 73-4 (Rancho Caballero); Final Report of the Study Panel to the California State Water Resources Control Board, Study Project, Water Quality Control Program, March 1969, especially Chapter IV; and Hampson v. Superior Court for County of Inyo (1977) 67 Cal.App.3d 472. See also State Board Order No. WQ 77-16 (Pacific Water Conditioning Association) which contains a lengthy discussion of the statutory requisites applicable to prescribing waste discharge requirements.

Therefore, the Regional Board acted appropriately in not considering the provisions of Section 13241 when adopting the waste discharge requirements.

2. Contention: Petitioner contends that the limitations on sodium and chloride are inconsistent with the Basin Plan and not required to protect the relevant beneficial uses.

Findings: The Basin Plan for the Central Coast Region sets median groundwater objectives for the Coastal Santa Maria Valley, location of the discharge, at 100 and 80 mg/l for sodium and chloride concentrations, respectively.^{4/} The requirements in Order No. 76-66 are considerably less stringent than the median objectives established in the Basin Plan; Order No. 76-66 allows up to 150 mg/l of sodium and up to 175 mg/l of chloride. The Regional Board states that these less restrictive limitations were chosen because, although there is some leakage through underlying clays, low permeability soils help to prevent pond wastewater from adversely affecting groundwater quality. In addition, the less restrictive requirements were based on the fact that a white lime sludge precipitate lines the bottom of the treatment ponds.^{5/}

Before considering the requirements' appropriateness in light of the above-cited specific objectives contained in the Basin

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4. Water Quality Control Plan Report, Central Coast Basin, April 1975, pp. 4-15.
 5. Memo to W. R. Attwater, Chief Counsel, State Water Resources Control Board, from Kenneth R. Jones, Executive Officer, Central Coast Regional Board, dated January 20, 1977.

Plan, it is necessary to consider the question of the extent to which the discharge actually reaches the groundwater. This is particularly important in light of the following statement which is in Chapter 16 of the Basin Plan Report, relative to industrial wastewater management alternatives:

"Union Sugar Refinery ... several reports by the State Department of Water Resources, the latest of which was published in 1969, indicate that the effect of the disposal of sugar-refining wastes has not been reflected in the groundwater quality of nearby wells. The relatively impervious nature of the bottom of the ponds is suggested as the reason why no groundwater quality degradation has occurred ^{6/}. No change in current operation is necessary."

Several reports have been published that specifically concern the geology, hydrology, and quality of groundwater in the Santa Maria Valley. The most significant reports are those published by the U. S. Geological Survey in 1951 (Water Supply Paper 1000)^{7/} and in July 1977 (Water Resources Investigations 76-128).^{8/} The latter was draft form at the time of adoption of the waste discharge requirements. Further, since the adoption of Order No. 76-66, a new report was prepared for Union Sugar by Dames and Moore, an environmental consulting firm, located in Santa Barbara, California.^{9/}

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6. Water Quality Control Plan Report, Central Coast Basin, April 1975, p. 16-162.
 7. G. F. Worts, Jr., Geology and Groundwater Resources of the Santa Maria Valley Area, California.
 8. J. Hughes, Evaluation of Groundwater Quality in the Santa Maria Valley, California.
 9. Dames and Moore, Report, Groundwater Investigation, Waste Water Treatment Ponds, Santa Maria, California, for Union Sugar (June 13, 1977).

These reports were reviewed in detail,^{10/} and on the basis of this review we must conclude that further information will have to be developed before any definitive conclusions can be drawn either in regard to the amount of percolation from the treatment ponds or the effects on the areas of groundwater which receive the percolating wastewater. The Petitioner's current monitoring program does not satisfactorily provide this information because it does not permit a determination as to the possible lateral movement of wastes through areas of semi-perched groundwater to receiving waters not currently sampled as a part of Union Sugar's monitoring program. Drillers logs and related information suggest that, in view of the discontinuity of clay, sand, and gravel layers, samples obtained from existing Union Sugar wells are not suitable to properly monitor for local groundwater quality changes. Well data indicate that wells are generally perforated in more than one depth interval and, therefore, produce a blend of groundwater from zones that may not be directly affected by percolating Union Sugar wastewater.

Further, well data suggest that semi-perched conditions probably occur along the top of the discontinuous clay layers that are above the watertable. Before reaching the watertable, the semi-perched waters intermittently occur under unsaturated flow conditions where the direction of percolation can be vertical and lateral to other areas. Subsequent to reaching the watertable and/or groundwater in the confined area, percolating waters

10. Internal Memo from Gil Torres, Division of Planning and Research, to Hassan Pejuhesh, Legal Division (December 22, 1977).

affected by wastewaters can flow to areas other than where the Union Sugar monitoring wells are located.

A properly planned exploratory program should be formulated and conducted to define the subsurface extent of wastewater influence in the vicinity of the Union Sugar facilities. Such testing will probably entail the installation of packers on existing wells and, if necessary, construction of new wells to various depths to obtain data on the occurrence and quality of semi-perched waters and groundwater in the uppermost part of the watertable. These data would provide a more meaningful basis to establish a groundwater quality monitoring program. In addition, they would aid the Regional Board in determining whether to clarify the Basin Plan Report which presently states that no change in the operation of the Union Sugar Refinery is needed.

In accord with these conclusions, we delete the present Water Supply/Groundwater Monitoring Requirements from Monitoring and Reporting Program No. 76-66.

We direct the State Board's supervising engineering geologist to develop a suitable monitoring and reporting program for the discharger, as discussed above, which will determine the extent of continuity of the treatment ponds with usable groundwater and the rate of percolation of wastewaters from the ponds. The geologist should develop such a program after consultation with the Regional Board's Executive Officer and a representative of the discharger. The Regional Board's Executive Officer shall amend Monitoring and Reporting Program No. 76-66 to include this exploratory program, and the discharger shall begin complying with it by no later than August 1, 1979.

The monitoring and reporting program should ensure the development of the necessary information by no later than February 1, 1980. Until the information has been developed, the waste discharge requirements should require maximum limits of sodium and chloride of 204 and 250 mg/l, respectively, as was requested by the discharger in his presentation before the Regional Board at the time Order No. 76-66 was adopted. Our conclusion in this regard is based upon evidence in the record that the ponds are at least partially sealed and that current groundwater sampling has indicated no degradation of groundwater quality as discussed above. Therefore, Discharge Specification A.4. of Order No. 76-66 is amended as follows:

4. Discharge to the treatment ponds shall not contain constituents in excess of the following limits:

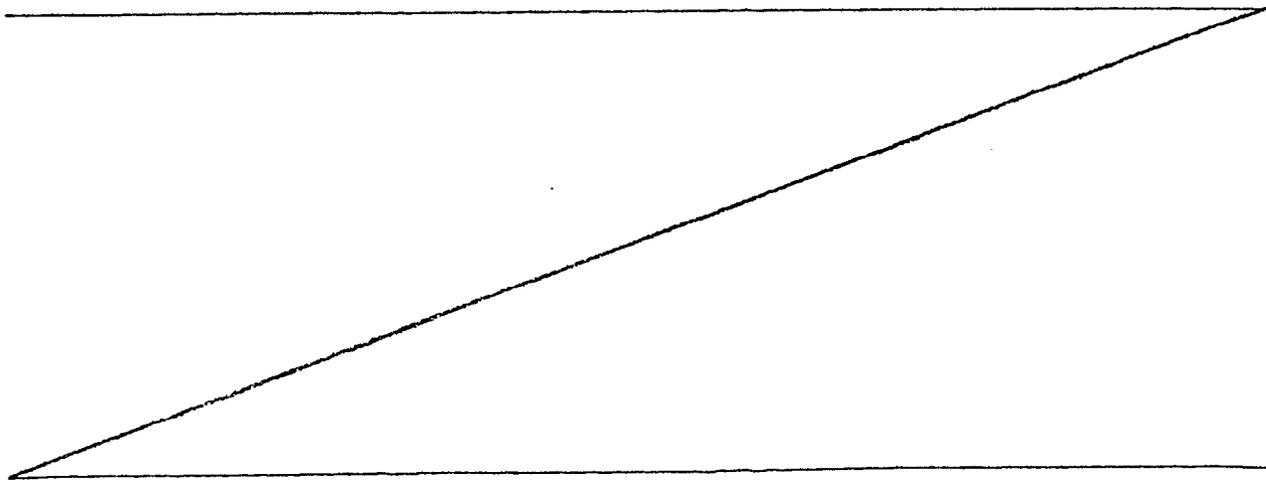
<u>Constituent</u>	<u>Units</u>	<u>Maximum</u>
Total Filtrable Residue (total dissolved solids)	mg/l	1,725
Sodium	mg/l	204
Chloride	mg/l	250
Sulfate	mg/l	275
Boron	mg/l	0.75

If the monitoring report outlined above shows that significant percolation of wastewaters from the treatment ponds to the groundwater is occurring, the Regional Board may have to adjust the waste discharge requirements to ensure that the median groundwater objectives of 100 and 80 mg/l for sodium and chloride, respectively, which are in the Basin Plan, will be met.

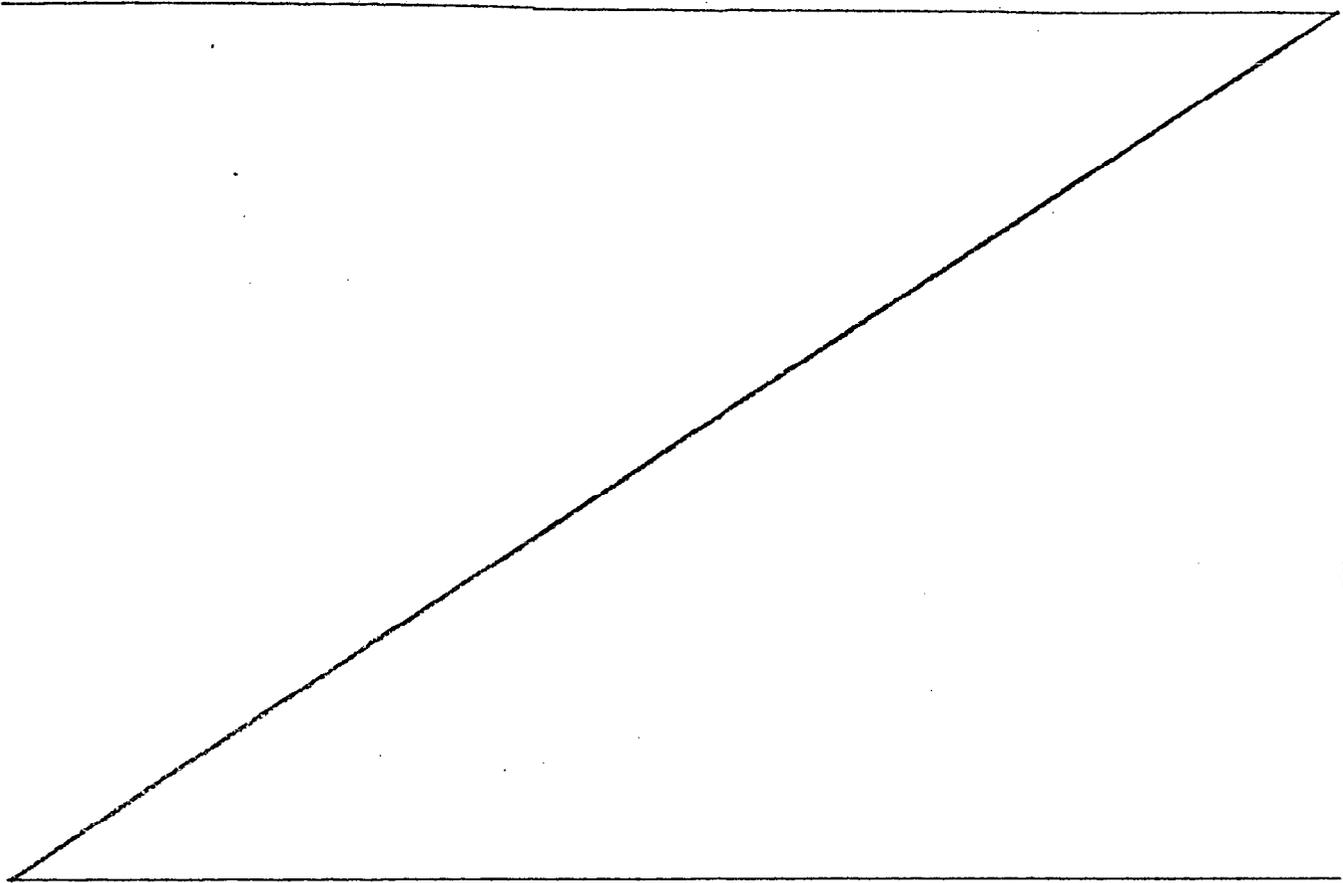
Before turning to Petitioner's next contention, we wish to comment on Union Sugar's reuse of the pond water for spray irrigation of a 300-acre pasture. It is doubtful that this low volume (1.44 mgd) irrigation presents any immediate threat to groundwater. However, the Regional Board should investigate its long-term impacts on groundwater before permitting the irrigation to be continued for an extended period. In addition, water applied to the fields should be limited to that amount needed for irrigation only, rather than permitting those larger quantities of water involved in a spray disposal operation.

3. Contention: Petitioner contends that the dissolved oxygen limitation and the associated monitoring and reporting provisions are inconsistent with the Basin Plan and not required to protect the relevant beneficial uses or to prevent a nuisance.

Findings: Order No. 76-66 requires that, effective January 1, 1979, the dissolved oxygen concentration of the surface of the treatment ponds shall at all times be greater than 1.0 mg/l. This limitation was established to prevent nuisance conditions caused by odor.



Maintenance of dissolved oxygen in ponded wastewater is generally considered desirable since it assures treatment without generation of obnoxious odors which can create a nuisance.^{11/} While this is true as a general principle, we hasten to point out that in



11. Nuisance is defined in Water Code Section 13050(m) as follows:

''Nuisance' means anything which: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property, and (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal, and (3) occurs during or as a result of the treatment of disposal of wastes."

this case the Regional Board record does not establish that there is an existing or potential nuisance resulting from odors in this particular case and that such a problem resulted from the dissolved oxygen concentration in the treatment ponds.^{12/} In fact, the level of dissolved oxygen in the ponds at the time the requirements were adopted was not even known.^{13/} In light of this lack of evidence, we amend the waste discharge requirements to delete Discharge Specification A.5. and Provision B.3. which establishes a time table for compliance with Specification A.5. If in the future the Regional Board establishes that a condition of nuisance does exist or threatens to exist as a result of this discharge, then requirements should be prescribed accordingly.

Until such time, the waste discharge requirements should continue in effect the general provision relative to nuisance currently contained in the requirements, Discharge Specification A.14. This provision states:

"Neither the treatment nor the discharge shall cause a nuisance as defined in Section 13050(m) of the California Water Code."

Petitioner has also sought relief from the requirement that representative samples from the first, second, third, and fourth treatment ponds be collected weekly and analyzed for the constituent dissolved oxygen. These weekly monitoring reports are then to be submitted to the Regional Board on the 20th day of the

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12. Certified Reporter's Transcript of Regional Board Meeting on December 10, 1976, pp. 19:25, 24:24 to 25:3, 29:2-4, 30:10 to 31:11.
 13. Certified Reporter's Transcript of Regional Board Meeting on December 10, 1976, pp. 12:25-28.

following month.^{14/} Since maintenance of dissolved oxygen helps to assure treatment without generation of obnoxious odors, we find these monitoring and reporting requirements to be appropriate. This information will aid the Regional Board in determining whether the provisions of the requirement relative to creation of a nuisance may in fact be being violated. Therefore, petitioner is denied relief from the monitoring and reporting requirements.

III. CONCLUSIONS

After review of the record and for the reasons heretofore expressed, we have reached the following conclusions:

1. There is no obligation on the part of the Regional Board to reconsider the matters referred to in Water Code Section 13241 at the time of adoption of waste discharge requirements if a basin plan is in effect at the time the requirements are adopted. The action of the Regional Board in this regard was appropriate and proper.

2. Evidence of continuity of the treatment ponds with usable groundwater and the rate of percolation of wastewaters from the ponds was insufficient to require sodium and chloride limitations of 150 and 175 mg/l, respectively. Further information must be developed via a revised monitoring and reporting program which is to be developed, as discussed herein, no later than August 1, 1979, and implemented by the Petitioner so

14. Monitoring and Reporting Program No. 76-66 for Union Sugar Division of Consolidated Foods Corporation, Betteravia, Santa Barbara County.

that the necessary information is acquired by February 1, 1980. In the interim sodium and chloride limitations should be 204 and 250 mg/l, respectively. If the acquired information that results from the monitoring program indicates that wastewater is in fact reaching the groundwater, requirements should be modified to properly implement the Basin Plan median objectives for sodium and chloride.

3.. There was insufficient evidence of an existing or potential nuisance resulting from airborne odors in the vicinity of the treatment plant to substantiate the 1.0 mg/l dissolved oxygen requirement. Finally, the monitoring and reporting requirements relative to dissolved oxygen are appropriate.

IT IS, THEREFORE, ORDERED that the petition for review of Order No. 76-66 is denied insofar as it concerns the Regional Board's obligation to consider Water Code Section 13241 in adopting the waste discharge requirements and insofar as it requests modification of the monitoring and reporting requirements relative to dissolved oxygen.

The Water Supply/Groundwater Monitoring Requirements of Monitoring and Reporting Program No. 76-66 are deleted.

The Regional Board is to develop an appropriate monitoring and reporting program, as discussed herein, and include it as part of the waste discharge requirements.

Discharge Specification A.4. of Order No. 76-66 is amended to set maximum sodium and chloride limitations at 204 and 250 mg/l, respectively.

Discharge Specification A.5. and Provision B.3. of
Order No. 76-66 relative to dissolved oxygen requirements are
deleted.

Dated: FEB 15 1979

/s/ W. Don Maughan
W. Don Maughan, Acting Chairman

/s/ William J. Miller
William J. Miller, Member

/s/ L. L. Mitchell
L. L. Mitchell, Member